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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,558	06/29/2001	Moo Jong Lim	8733.461.00	5058

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EXAMINER

CHOI, JACOB Y

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 08/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/893,558

Applicant(s)

LIM, MOO JONG

Examiner

Jacob Y Choi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06/29/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see 1-8, filed 06/12/2003, with respect to the rejection(s) of claim(s) 1-10 under Kawano et al. in view of Satoh have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Tokunaga (USPN 5,375,043) and Mochizuki (USPN 6,386,720).

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a plurality of lamps, each of the lamps / chips has a luminescent area over 100 degrees must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 2 & 6 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for "the LED lamp or chip according to the present invention covers a luminescent area over 100 degrees (page 8, line 0045), does not reasonably provide enablement for "each of the lamps/chips has a luminescent area over 100 degrees". The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make LED lamp or chip that covers a luminescent area over 100 degrees the invention commensurate in scope with these claims. The specification is not enabling because there is no support behind the LED lamp or chip being able to cover 100 degrees of luminescent area. One in ordinary skill in the art would have recognized that there are many variables to control or to produce a desired output (solid angle) of the LED, including, shape of the reflector support, refracting cover ... etc. The specification does not provide a how the LED is capable of covering over 100 degrees of luminescent area and one in ordinary skill in the art would not reasonably apprised of the scope of the invention.

Note: Meggs et al. (USPN 4,521,835) clearly shows that the LED is capable of covering over 100 degrees of luminescent area (figure 2)

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claims 1 & 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 & 5 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: claim language "*following a field sequence*" being incomplete for omitting structural cooperative relationship of elements of a reflection plate, a diffusion plate, a backlight unit, and LCD.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1 & 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Mochizuki (USPN 6,386,720).

Regarding claim 1, Mochizuki disclose a liquid crystal display (17) including a light-guide plate (1), a reflection plate (4), and a diffusion plate (160), the backlight unit using LED as a backlight lamp, the liquid crystal display (17) following a field sequence,

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wherein a plurality of lamps are arranged such that LED chips realizing R, G, and B colors are built in the respective lamps (figures 9A-9C & applicant's prior art figure 2)

Note: plate is defined as a smooth, flat, relatively thin, rigid body of uniform thickness.

Regarding claim 5, Mochizuki disclose a liquid crystal display including a light-guide plate, a reflection plate, and a diffusion plate, the backlight unit using LED as a backlight lamp, the liquid crystal display following a field sequence, wherein a plurality of chips are arranged such that LED chips realizing R, G, and B colors are built in the respective chips.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3, 4, 7, & 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki (USPN 6,386,720).

Regarding claim 3, 4, 7, 8, Mochizuki discloses the claimed invention, explained above. In addition, Mochizuki teaches tight fit between the lamps and the diffusion plate. It would have been obvious matter of design variation to disclose a specific intervals / distance between LEDs and the diffusion plate, since applicant has not disclosed that the specific interval / distance solves any stated problem or is for any

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particular purpose and it appears that the invention would perform equally well without the specific interval / distance. In addition, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

11. Claims 2 & 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki (USPN 6,386,720) in view of Meggs et al. (USPN 4,521,835).

Regarding claims 2 & 6, Mochizuki discloses the claimed invention, except the specific details of the lamps has a luminescent area over 100 degrees. Meggs et al. clearly shows (figure 2) and teaches that the LED is capable of covering over 100 degrees of luminescent area. It would have been obvious matter of design variation to modify the content of the LED to produce specified angel output, since applicant has not disclosed that the lamp has a luminescent area over 100 degrees solves any stated problem or is for any particular purpose and it appears that the invention would perform accordingly.

12. Claims 1 & 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokunaga (USPN 5,375,043) in view of applicant's disclosed prior art (figures 1 & 2).

Regarding claim 1, Tokunaga discloses a liquid crystal display (3) including a light-guide plate (1), a reflection plate (1a), the backlight unit using LED as a backlight lamp, the liquid crystal display following a field sequence, wherein a plurality of lamps are arranged such that LED chips realizing R, G, and B colors are built in the respective

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lamps (claim 1 of Tokunaga & applicant's prior art figure 2). Tokunaga discloses the claimed invention except for a diffusion plate. Applicant's disclosed prior art (figure 1 & 2) teaches the requirements of a diffusion plate for the liquid crystal display. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use modification in Tokunaga, as taught by applicant's disclosed prior art in order to provide a uniform brightness of the dispersed light.

Regarding claim 5, Tokunaga discloses a liquid crystal display (3) including a light-guide plate (1), a reflection plate (1a), the backlight unit using LED as a backlight lamp, the liquid crystal display following a field sequence, wherein a plurality of chips are arranged such that LED chips realizing R, G, and B colors are built in the respective lamps (claim 1 of Tokunaga & applicant's prior art figure 2). Tokunaga discloses the claimed invention except for a diffusion plate. Applicant's disclosed prior art (figure 1 & 2) teaches the requirements of a diffusion plate for the liquid crystal display. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use modification in Tokunaga, as taught by applicant's disclosed prior art in order to provide a uniform brightness of the dispersed light.

13. Claims 9 & 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stinson (USPN 4,992,704).

Regarding claim 9, Stinson discloses three LED chips built in each of the lamps, the three LED chips realizing R, G, and B colors respectively, wherein the lamp are turn on/off according to a sequence of a R chip, a G chip, and a B chip in each of the rows

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(figure 3; column 3, lines 10-30). Stinson discloses the claimed invention except a plurality of lamps. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have plurality lamps of Stinson, since it has been held that mere duplication of the essential working parts of the device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Regarding claim 10, Stinson discloses three LED chips built in each of unit chips, the three LED chips realizing R, G, and B colors respectively, wherein the unit chips are turned on/off according to a sequence of a R chip, a G chip, and a B chip in each of the rows (figure 3; column 3, lines 10-30). Stinson discloses the claimed invention except a plurality of lamps. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have plurality lamps of Stinson, since it has been held that mere duplication of the essential working parts of the device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Meggs et al. (USPN 4,521,835) – flexible elongated lighting system

Parker et al. (USPN 5,921,652) – light emitting panel assemblies

Parker et al. (USPN 5,876,107) – light emitting panel assemblies

Parker et al. (USPN 6,079,838) – light emitting panel assemblies


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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Y Choi whose telephone number is (703) 308-4792. The examiner can normally be reached on Monday-Friday (10:00-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-7724.

JC



ALAN CARIASO
PRIMARY EXAMINER